

**ACACIA MACONOCHIEANA (MIMOSACEAE),  
A NEW SPECIES FROM SEMI-ARID AUSTRALIA**

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**Summary**

*Acacia maconchieana* is described as new. It has a restricted range in Western Australia and the Northern Territory. It is compared with *A. tephрина* Pedley.

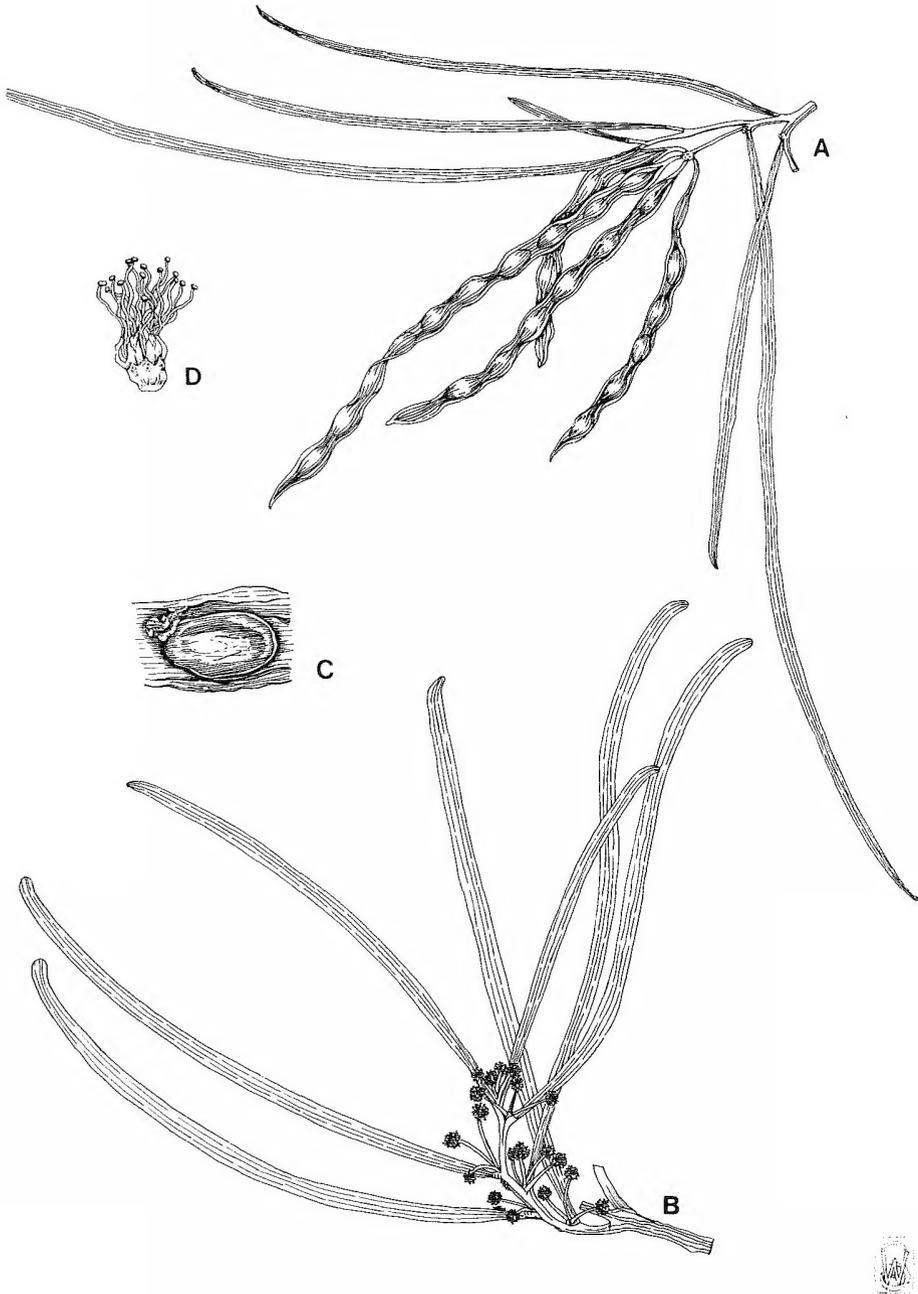
*Acacia maconchieana* Pedley, sp. nov. affinis *A. tephринаe* Pedley ramis inflorescentium paucioribus, calyce longiore corollae dimidio brevioris vix lobato saepe pilis aureis ornato, leguminibus longioribus differt. **Typus:** J.R. Maconochie 1749 (BRI, holotypus; specimina distributa ad AD, B, CANB, DNA, K, NSW, NT, PERTH, sed non visa).

Arbor usque 10 m alta cortice cinera sulcato longitudinaliter (fide Thomson); ramuli tenues angulares indumento pilorum brevium appressorum in angulis flavidis evanescenti. Phyllodia recta vel leviter falcata, plerumque obtusa irregulariter interdum acuta, 8-15 (-17) cm longa, 2-5.5 mm lata, 20-40 (-80) plo longiora quam latiora, nervis multis tenuis longitudinalibus (usque 30 in phyllodiis latis), dense appresse pubescentia, pilis ca 0.1 mm longis in phyllodiis veteribus in areas intercostates limitatis interdum phyllodiorum basin versus leviter patentibus; glans basalis; pulvinus 2-3 mm longus. Capitula 20-25 florum pilis aureis inter flores in racemos dense pubescentes axillares 2-4 ramosos disposita ex axe 2-3 mm longa, ramis 4.5-8 mm longis constantes. Flores 5-meri; calyx membranaceus 0.6-0.9 mm longus plerumque pubescens in parte supra lobis obtusis perbrevibus praeditus; corolla 1.5-1.7 mm longa, calyce ca 2 plo longior, lobis in parte infera conjunctis; stamina ca 3mm longa; ovarium dense pubescens. Legumina recta linearia plana leviter contracta inter semina et convexa supra ea, pubescentia dense appresse, usque 12-sperma et 13 cm longa, 5 mm lata; semina longitudinalia 5.5-6 mm longa, ca 2.5 mm lata; pleurogramma tenuis areolam angustam apertam formans; funiculus 2 parvis plicis arillum basilem faciens.

A tree to 10 m with a single trunk to ca 5 m, up to 30 cm d.b.h.; bark grey, longitudinally furrowed (fide Thomson); branchlets slender, angular with a dense indumentum of short appressed hairs wearing off on the yellowish ribs. Phyllodes straight or slightly falcate, linear, usually irregularly obtuse, occasionally acute, 8-15 (-17) cm long, 2-5.5 mm wide, 20-40 (-80) times as long as wide, many fine parallel longitudinal nerves (up to 30 on wide phyllodes), densely appressed pubescent with hairs ca 0.1 mm long, hairs on old phyllodes confined to intercostal areas and hairs at base of phyllodes spreading to some extent; gland basal; pulvinus 2-3 mm long. Heads of 20-25 flowers with golden hairs among the flowers, in densely pubescent axillary 2-4-branched racemes, the axis 2-3 mm long, branches 4.5-8 mm long. Flowers 5-merous; calyx membranous, 0.6-0.9 mm long, usually golden pubescent in upper part, with extremely short obtuse lobes; corolla 1.5-1.7 mm long, the lobes united in the lower third; stamens ca 3 mm long; ovary densely pubescent. Pod straight, linear, flat, slightly contracted between seeds and raised over them, densely appressed pubescent, up to 12-seeded and 13cm long, 5 mm wide. Seeds longitudinal, 5.5-6 mm long, ca 2.5 mm wide; pleurogram fine forming narrow open areole ca 3 times as long as wide; funicle with two folds forming basal aril. **Fig. 1.**

Western Australia. ± 2km NW of Lens Bore, Lake Gregory, 20°14'S, 127°29'E, Apr 1979, George 15415 (BRI; PERTH n.v.); SW edge of Bulbi Plain, 44 km SW of Lake Gregory (Mulan) Settlement, 20°17'S, 127°19'E, Oct 1984, Thomson LXT 95 (BRI; FRI n.v.); 21 km SE of Bungabiddy Well, Lake Gregory, 20°16'S, 127°28'E, Oct 1984, Thomson LAJT 36 (BRI; FRI n.v.); Weriaddo Ck, 20°18'S, 127°25'E, Jun 1980, Burbidge 157 (BRI; PERTH n.v.); E of Lewis Ra. (approx. 20°10'S, 28°40'E), Jun 1968, Beard 5571 (PERTH), Northern Territory. 117 km W of Hookers Creek, 18°12'S, 129°44'E, Jul 1973, Maconochie 1749 (TYPE: BRI, holo; AD, B, CANB, DNA, K, NSW, NT, PERTH, n.v.); Sanctuary Swamp, 20°04'S, 129°33'E, Jul 1980, Maconochie 2454 (BRI; AD, B, CANB, DNA, HO, K, MEL, MO, NSW, NT, NY, PERTH, n.v.).

**Ecology:** The species is restricted to the northern part of the Mueller Botanical District (Beard, 1980) of Western Australia and adjacent parts of the Northern Territory where



**Fig. 1.** *Acacia maconochieana*: A. fruiting branch  $\times \frac{2}{3}$ . B. flowering branch  $\times \frac{2}{3}$ . c. seed  $\times \frac{8}{3}$ . D. flower  $\times 5$ .

it is reported to occur on fine-loam and clay soils some of which are periodically waterlogged and some suspected of being saline. It is particularly common around Lake Gregory. It forms thickets when young or low open forest and woodland with little understory when mature.

*Acacia maconochieana* has potential as a fuel-wood species for semi-arid tropical and subtropical regions of the world. In situations receiving extra run-on water it grows to a sizeable tree on fine-textured soils. The environment is harsh with the mean maximum annual temperature exceeding 30°C., an unreliable rainfall averaging 350 mm per annum and annual average evaporation about 2 800 mm.

The species has been discussed by Pedley (1981). Maslin (1981) treated it and possibly two other taxa (one from 'Indiana' Station, Northern Territory, the other from Richmond, Queensland) as *Acacia* sp. aff. *A. cambagei* R.T. Baker. Members of the Microneuræ group of *Acacia*\* are often difficult to identify from herbarium material, though they usually have distinctive facies in the field. The attributes that distinguish *A. maconochieana* from *A. tephрина* (fewer heads in the axillary racemes, slightly bigger calyx half as long as the corolla, longer pods) may seem slight but are consonant with attributes of the sort that distinguish other species-pairs of the group; for example, *A. tephрина* from *A. cana* Maiden, and *A. microsperma* Pedley from *A. omalophylla* Cunn. ex Benth. Many species of the group are virtually confined to clay soils. Some of them, for example *A. cambagei* and *A. harpophylla* F.Muell. ex Benth., are widely distributed but others, especially *A. ammophila* Pedley, *A. maranoensis* Pedley and *A. microcephala* Pedley, have narrow ranges.

**Etymology:** The species is named to commemorate John Maconochie (1941-84) a knowledgeable botanist and a good companion.

#### References

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\*See Pedley (1978:84) for use of term group.